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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,574	11/12/2003	Steven Porter	020510-004700US	8259

7590

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EXAMINER

SWERDLOW, DANIEL

ART UNIT PAPER NUMBER

2646

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,574

Applicant(s)

PORTER, STEVEN

Examiner

Daniel Swerdlow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1 through 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rovnyak (US Patent 4,166,933) in view of Holmes et al. (US Patent 3,941,939).**

3. Regarding Claim 1, Rovnyak discloses a ring relay circuit that selectively switches between a ringing voltage supply (Fig., reference 200) and a battery supply (i.e., two different voltage supplies) to supply a RING node that corresponds to the common node claimed with the ringing voltage supply coupled to the RING (i.e., common) node via a set of relay contacts (Fig., reference 23, 27) that correspond to the first switch claimed and the battery via a set of relay contacts (Fig., reference 21, 24) that correspond to the second switch claimed. Rovnyak further discloses a ring trip loop sensor (Fig., reference 80) coupled to the common node that output a ring trip detection (i.e., feedback) signal. Rovnyak further discloses a CPU (Fig., reference 10; column 2, lines 46-48) that corresponds to the timing controller claimed and operates the relay coil (Fig., reference 20) that corresponds to the switch controllers claimed in response to the signal that corresponds to the feedback signal claimed from ring trip loop sensor (column 3, lines 14-18). However, Rovnyak is silent as to the structure of the ring trip loop sensor and, as such, does not disclose filtering a signal at the common node for producing the feedback signal. Holmes discloses a ring trip circuit that includes a high pass filter (Fig. 1, reference C2; column

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2, lines 44-47) to produce a ring trip detection (i.e., feedback signal). Holmes further discloses that such an arrangement provides sensitive detection over a wide range of ringing frequencies (column 1, lines 34-39). It would have been obvious to one skilled in the art at the time of the invention to apply the filtering and detecting ring trip detector taught by Holmes to the relay circuit taught by Rovnyak for the purpose of realizing the aforesaid advantages.

4. Regarding Claim 2, Rovnyak further discloses a ringing voltage (i.e., alternating current) supply (Fig., reference 200) and a battery (i.e., direct current) supply (column 2, lines 31-33).

5. Regarding Claim 3, Rovnyak further discloses the CPU that corresponds to the timing controller claimed coupled to the ringing (i.e., AC) supply via the ring trip loop sensor (Fig., reference 80) and the relay contacts (Fig., reference 23, 27).

6. Regarding Claim 4, Rovnyak further discloses the CPU that corresponds to the timing controller claimed coupled to the battery (i.e., DC) supply and the common node via the ring trip loop sensor (Fig., reference 80) and the relay contacts (Fig., reference 23, 27).

7. Regarding Claim 8, Rovnyak discloses a ring relay circuit that selectively switches between a ringing voltage supply (Fig., reference 200) and a battery supply (i.e., two different voltage supplies) to supply a RING node that corresponds to the common node claimed with the ringing voltage supply coupled to the RING (i.e., common) node via a set of relay contacts (Fig., reference 23, 27) that correspond to the first switch claimed and the battery via a set of relay contacts (Fig., reference 21, 24) that correspond to the second switch claimed. Rovnyak further discloses a central processing unit (Fig., reference 10; column 2, lines 46-48) that determines the phone is to be rung and operates the relay (i.e., receiving a request to switch between the voltage supplies). Rovnyak further discloses staged switching involving use of current limiting resistors (Fig., reference 30, 40; column 2, lines 46-62) to provide an intermediate state of conductivity

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between the contacts being open and closed (i.e., gradually removing one of said voltage supplies and gradually applying an other). Rovnyak further discloses a ring trip loop sensor (Fig., reference 80) coupled to the common node. However, Rovnyak is silent as to the structure of the ring trip loop sensor and, as such, does not disclose filtering a signal at a common node for detecting noise. Holmes discloses a ring trip circuit that filters ringing current (Fig. 1, reference R12, C2; column 2, lines 44-47) and shunts away (i.e., detects) unwanted AC signals (i.e., noise). Holmes further discloses that such an arrangement provides sensitive detection over a wide range of ringing frequencies (column 1, lines 34-39). It would have been obvious to one skilled in the art at the time of the invention to apply the filtering and detecting ring trip detector taught by Holmes to the relay circuit taught by Rovnyak for the purpose of realizing the aforesaid advantages.

8. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rovnyak in view of Holmes and further in view of admitted prior art.

9. Regarding Claim 5, as shown above apropos of Claim 3, the combination of Rovnyak and Holmes makes obvious all elements except the switch comprising two serially coupled transistors. Applicant discloses as prior art the use of serially coupled transistors to switch a subscriber loop to a voltage supply (Fig. 1, reference First Mosfet, Second Mosfet). The advantages of using transistors in place of relay contacts were well known to one skilled in the art and include reductions in size and cost and improvements in reliability. As such, it would have been obvious to one skilled in the art at the time of the invention to apply the serial transistors admitted by applicant as prior art to the combination made obvious by Rovnyak and Holmes for the purpose of realizing the aforesaid advantages.

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10. Regarding Claim 6, as shown above apropos of Claim 3, the combination of Rovnyak and Holmes makes obvious all elements except the switch comprising two serially coupled transistors. Applicant discloses as prior art the use of serially coupled transistors to switch a subscriber loop to a voltage supply (Fig. 1, reference First Mosfet, Second Mosfet). The advantages of using transistors in place of relay contacts were well known to one skilled in the art and include reductions in size and cost and improvements in reliability. As such, it would have been obvious to one skilled in the art at the time of the invention to apply the serial transistors admitted by applicant as prior art to the combination made obvious by Rovnyak and Holmes for the purpose of realizing the aforesaid advantages.

Allowable Subject Matter

11. Claims 8 through 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

13. Regarding Claim 8, as shown above apropos of Claim 7, the combination of Rovnyak and Holmes makes obvious all elements except adjusting the rate of removing or applying supply voltage in response to the filtered signal for reducing detected noise. Rovnyak discloses limiting the rate of supply voltage application and removal by use of current-limiting resistors and sequential relay contact openings and closures. As such the varying of rate of removing or applying supply voltage in response to a filtered signal for reducing noise is not applicable to the circuit of Rovnyak. As such, there is no teaching or suggestion in the prior art or the knowledge

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of one skilled in the art to modify the combination of Rovnyak and Holmes to achieve the claimed invention.


14. Claims 9 through 20 are allowable matter due to dependence from Claim 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Swerdlow whose telephone number is 571-272-7531. The examiner can normally be reached on Monday through Friday between 7:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh H. Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel Swerdlow
Examiner
Art Unit 2646

ds
21 November 2005